Artisan Controls Corporation
Solid State Timers and Controllers Since 1965

5400 Color Controller

RECOGNIZED COMPONENT
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Intertek
3080852

The Artisan Controls Model 5400 controller provides a modern graphical user interface via it's 3.5" diagonal color display and includes two inputs for temperature probes, two switch inputs, two relay contact outputs, and two DC outputs for driving solid state relays, thereby providing an excellent platform for heating, cooking, or equipment control for virtually any application.

- Robust Design: Designed *specifically* for the commercial kitchen environment.
- User Interface – 3.5" diagonal color LCD display with simple touchscreen operation and intuitive window designs, 320 x 240 pixels with 64k colors.
- Cooking Recipes – 15 nameable recipes with preheat, cooking, & hold cycles along with graphical icons. Up to 3 different cooking profiles per recipe. Extra cooking time available in all cooking and hold cycles.
- Dimensions – 4-1/2"wide, 4-1/8" tall, 1-1/2" deep maximum.
- Analog Inputs – Two inputs configurable for 100 ohm RTD, J or K thermocouple. Other inputs such as 4-20mA, 0-10V, etc. are available.
- Digital Inputs – Two low voltage contact inputs.
- Outputs – Two 10A relay outputs and two 5V DC outputs for solid state relays
- Control – On/Off control with selectable hysteresis or PID control with sophisticated Auto Tune.
- Security – Supervisor, Technician, and Factory access levels.
- Import/Export – Integrated USB port for saving or reading recipes and controller configurations providing consistent factory setup and field service. No 2Gb limitation. *Firmware upgrades through USB port*
- Controller History – Tracks operational hours and cooking hours to 0.1 hour resolution. Stores up to 128 system events and HACCP events for service history.
- MADE IN USA – Designed and manufactured exclusively in the USA.

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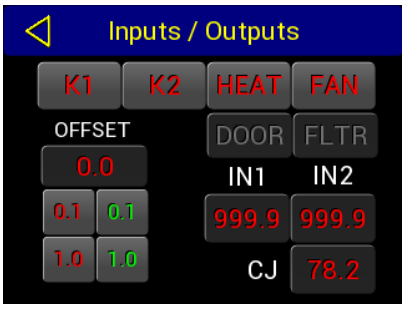
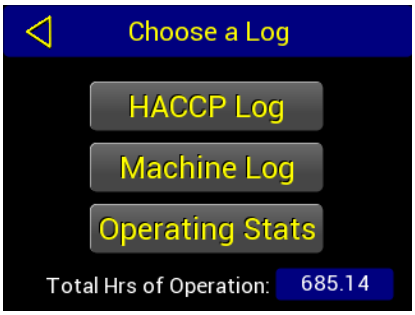
Artisan Controls Corporation, 111 Canfield Ave., Bldg B15-18, Randolph, NJ 07869

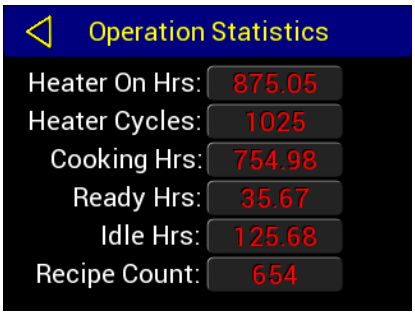
The 5400 controller provides all the input, output, and control methods needed to manage any cooking application. The OEM can configure the input sensor types, the type of control method used (on/off or PID), and the outputs used for controlling the cooking temperature. All of the 15 recipes have configurable alphanumeric names and graphical icons to assure proper recipe selection by the operator.

When testing the appliance in manufacturing or servicing it in the field, the 5400 allows the proper password to access windows that show the states of all the inputs and outputs and to manually drive the outputs, the controller history including all configuration changes, sensor input alarms, total running hours and the total cooking hours.

The unique flexibility of this controller extends to customization of the user interface and operation by Artisan for the OEM's application needs. Artisan can modify the firmware to allow the OEM to choose the color schemes, display the company logo, lock some or all of the configuration to prevent errors in factory and field installation, and to use the two switch inputs for additional functions such as door and filter guard alarms.







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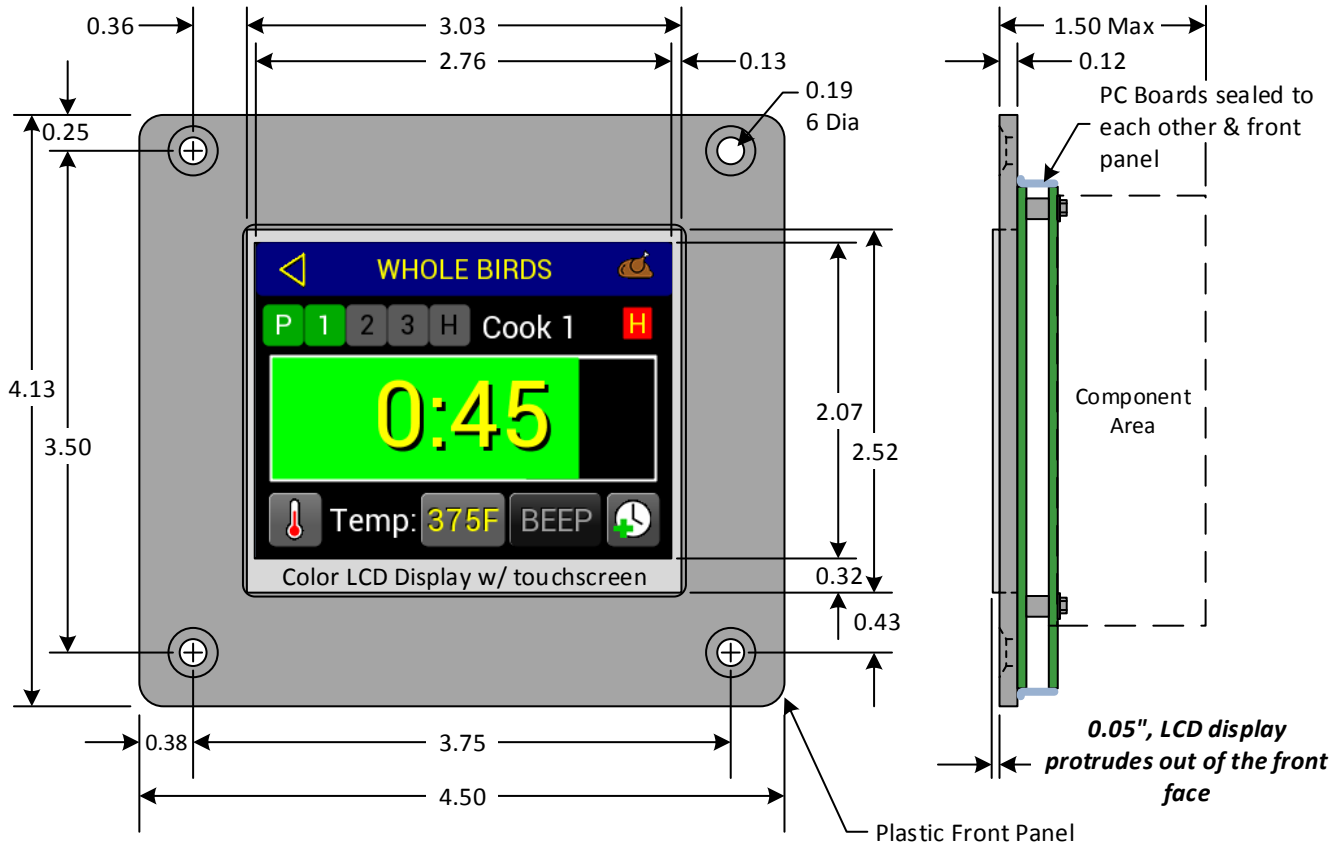
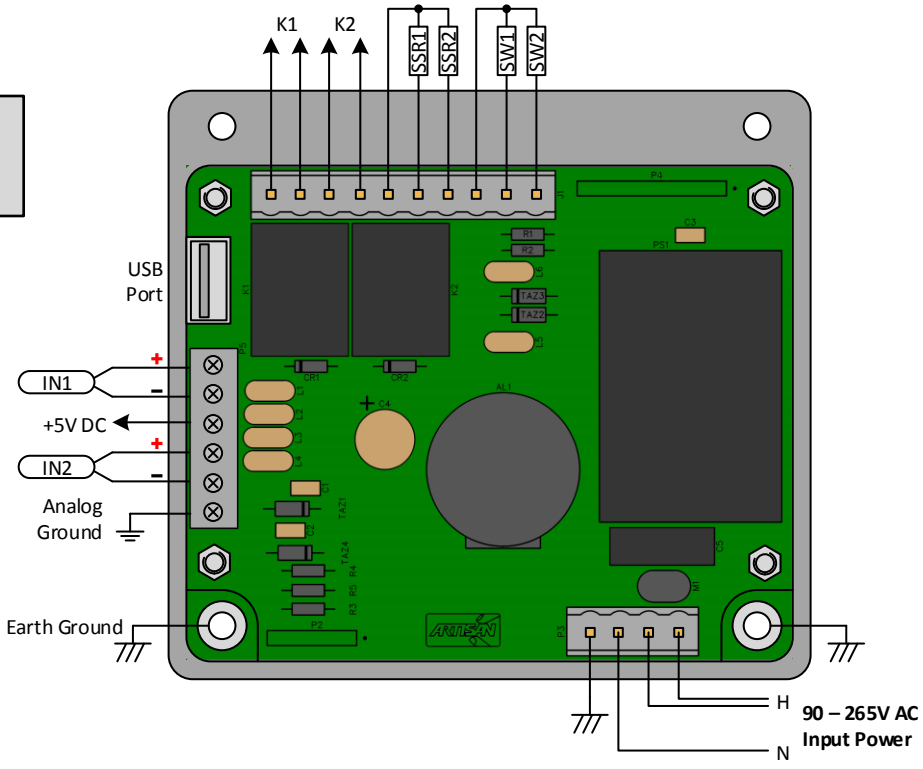


Dimensions and Wiring



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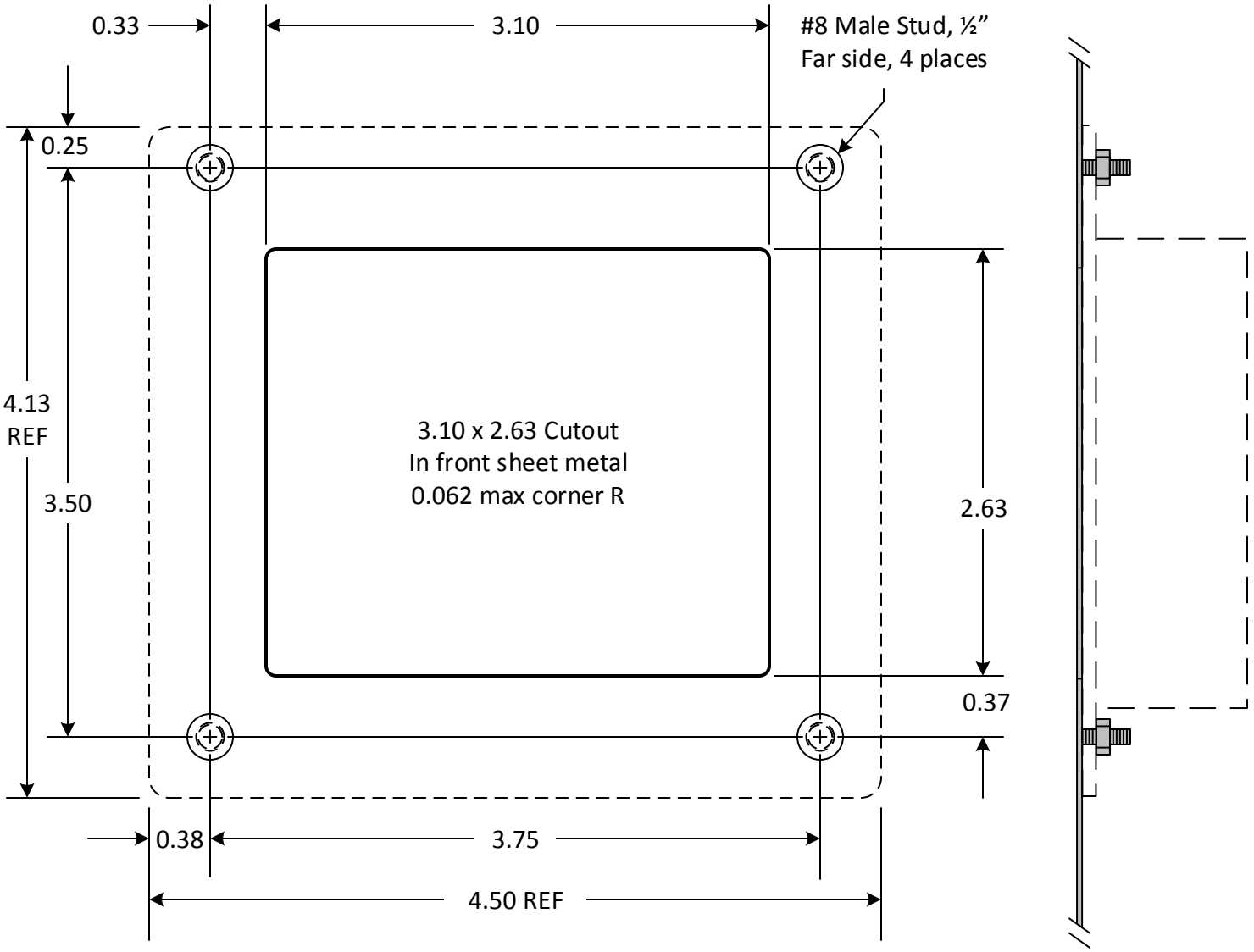

Recommended Mounting

If front panel temperature is greater than 55°C see next page

When designing the mounting method with a protective overlay there should be a 0.010" – 0.015" gap between the back of the overlay and the front surface of the display. Dielectric dots on the back of the overlay are recommended to prevent adhering of the back of the overlay to the LCD display

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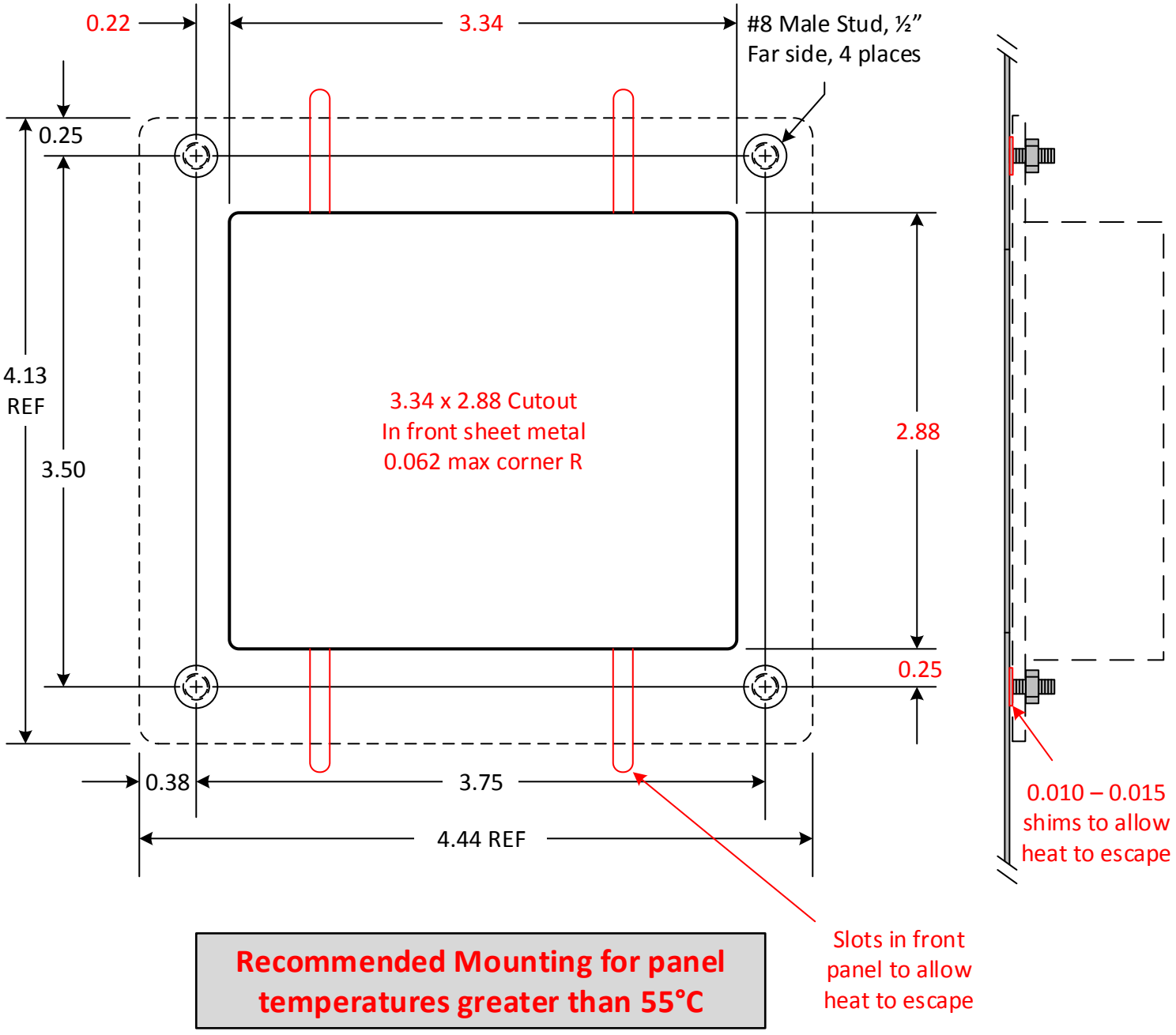

Recommended Mounting for panel temperatures greater than 55°C

Shims on the mounting studs or slots in the front metal should be used to allow hot air that is trapped between the controller and the overlay to escape. A larger opening for the display is required to increase the distance between the hot front panel and the touchscreen and to allow for additional overlay flexing if shims are used to create the convective cooling required.

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OVERLAY RECOMMENDATIONS:

The overlay must allow for a small amount of stretching to overcome the distance between the back of the overlay and the front of the resistive touchscreen. We recommend using 0.007" – 0.010" thick pure polyester material; polycarbonate or polycarbonate/polyester blends are less flexible and may crack over years of heat, flexing, and cleaning solutions.

We additionally recommend using a higher strength adhesive than the standard 3M 467, especially in food service environments where there is a high level of mechanical cleaning and cleaning solutions used. We recommend adhesives such as 3M 300-LSE or equivalent for these applications.

The overlay adhesive must stop at or before the edges in the opening in the front sheet metal to allow for the flexing of the overlay when being touched.

The clear area of the overlay should end at the edges of the Active Display Area to ensure full visibility of the LCD display.

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SPECIFICATIONS:

DISPLAY: Color 3.5" diagonal LCD display, 320 x 240 pixels, 16 bit color, resistive touchscreen for user interface. 60Hz display refresh rate.

PROCESSING: 32 bit processor providing 16 bit sensor measurement resolution with programmable gain to handle wide ranges of input voltages. Floating point conversion of input signals using ITS-90 conversion formulas. Analog resolution of less than 0.1°F, cold junction resolution 0.25°F, measurement accuracy better than 3°F.

OUTPUTS: K1 & K2 - SPNO relay contacts rated 10A @ 125VAC, 7A @ 250VAC. SSR1 & SSR2 - 5VDC @ 50mA maximum[2].

INPUTS: SW1 & SW2 - Low voltage dry contact inputs, <5mA @ 5VDC.
IN1 & IN2 - Universal analog inputs. Software configurable for 100 Ohm RTD (385 curve), J or K thermocouple, other analog inputs (ie: 4-20mA, 0-10V) available. +5V DC for sensor power limited to 50mA maximum[2].

FUNCTIONALITY: Up to 15 menu selections, multiple cook cycles, thermostatic or PID control, custom windows and control schemes.

USB PORT: Flash drive interface for importing & exporting cooking recipes and controller configuration. Any drive size up to 16Gb, current limited to prevent damage.

CONNECTIONS:
Power - Wago 231-134/001-000
Input/Output - Wago 231-140/001-000
Analog Inputs - Rising cage w/screw, 16-30 GA

ENVIRONMENTAL: PCB's - Sealed to each other to prevent penetration of moisture or other contaminants.
Operating Temperature - 0°C to +70°C

AC POWER: 90-265VAC, 50/60Hz, 5W maximum

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[2] *- Total external 5VDC current load (SSR1 + SSR2 + INP) = 90mA maximum.*

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